



# ENVIRONMENTAL INFECTION CONTROL



# Agenda

**Hazard  
Process  
Interim Control  
Permanent Control  
Resource**



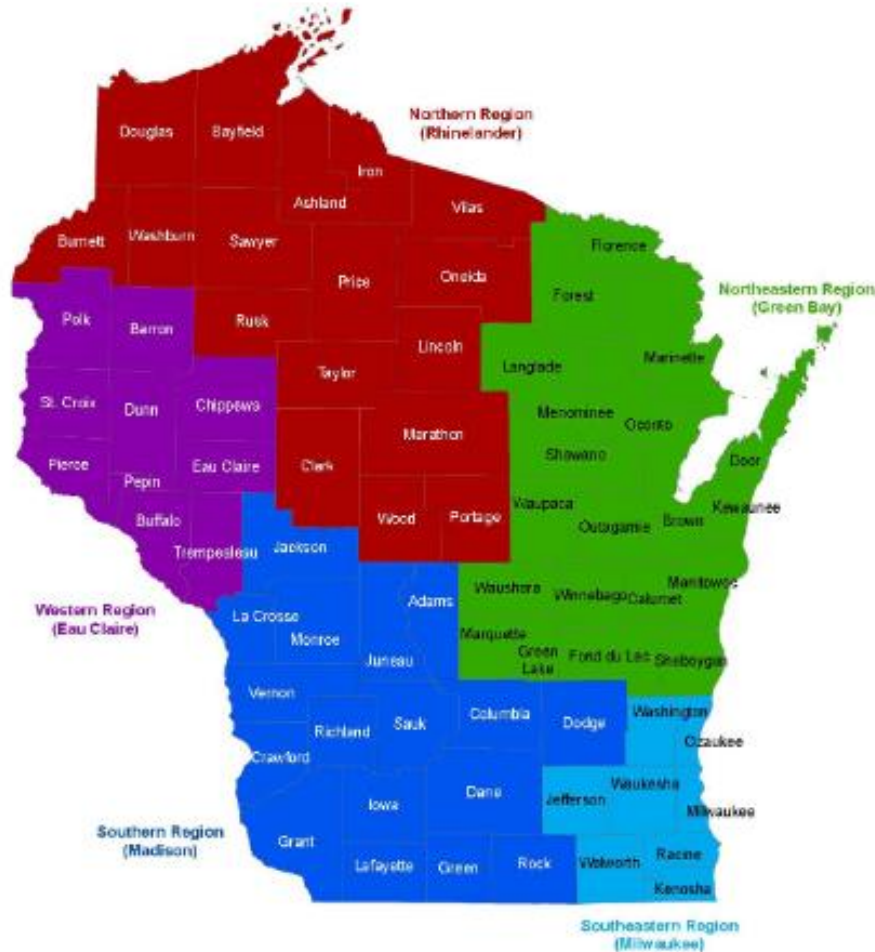
# Referral



**Design Professional**



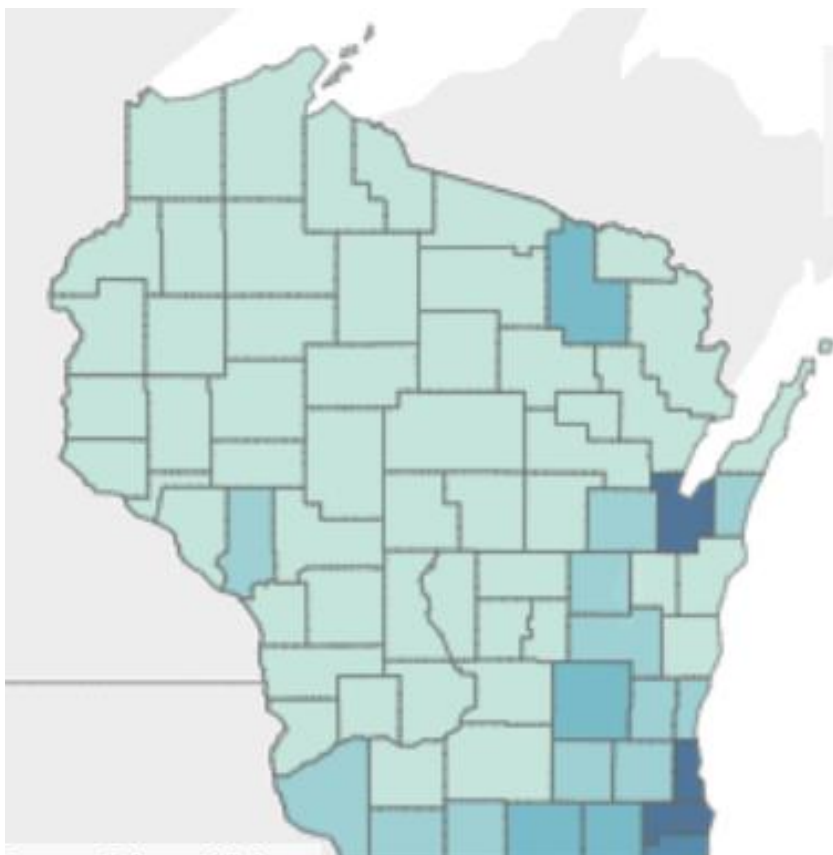
# Referral



## State Licensure Bureau of Nursing Home and Resident Care



# Referral



**County  
Public Department of  
Health**



# Hazard

## Infectious Agent

**Corona Virus:** A large family of viruses that cause illness ranging from the common cold to more severe diseases

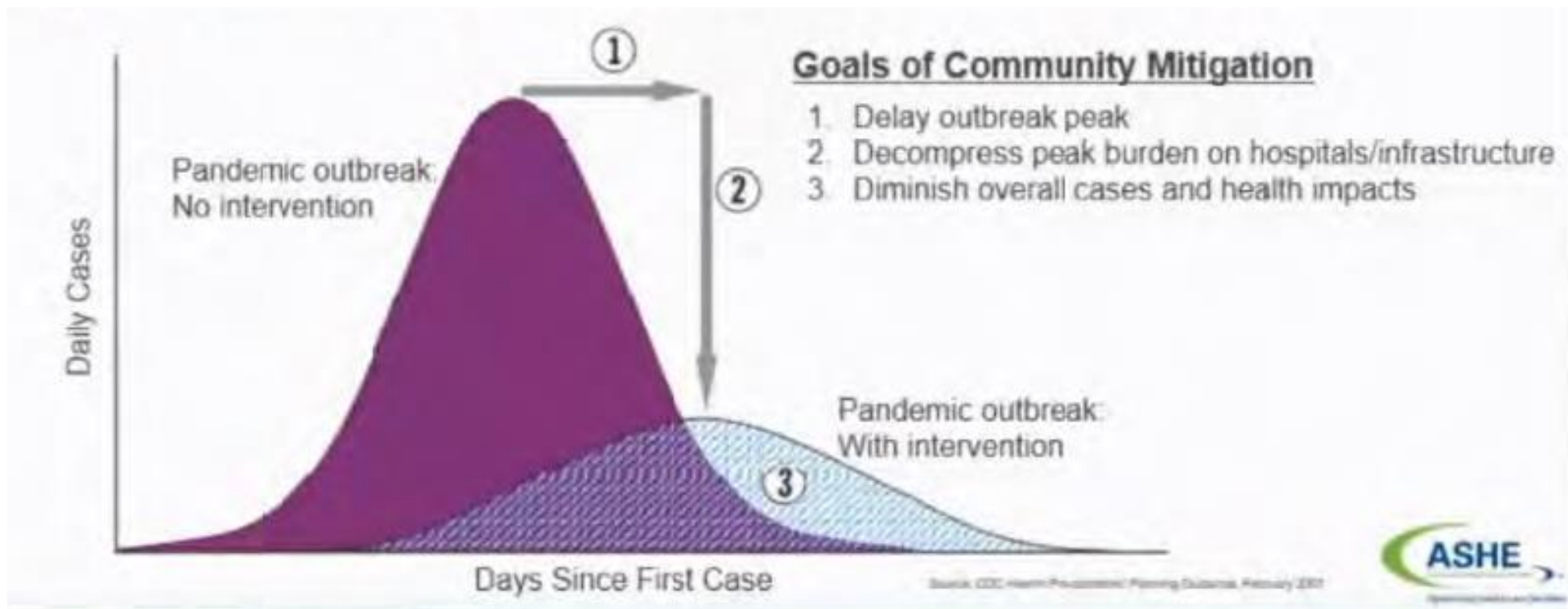
**SARS-CoV-2:** The name of the virus that causes COVID-19

**COVID-19:** The name of the disease caused by the SARS-CoV-2 virus



# Hazard

## Communicable Disease





# Code

The LTC facility must prevent the development and transmission of **communicable diseases** and infections ....

**42 CFR 483.80**

**F880**





# Code

The LTC facility must establish and maintain an infection prevention and control program designed to provide a safe and sanitary **environment ....**

**42 CFR 483.80**

**F880**



# Code

The LTC facility must document a risk assessment utilizing an all-hazards approach ....

**42 CFR 483.73**

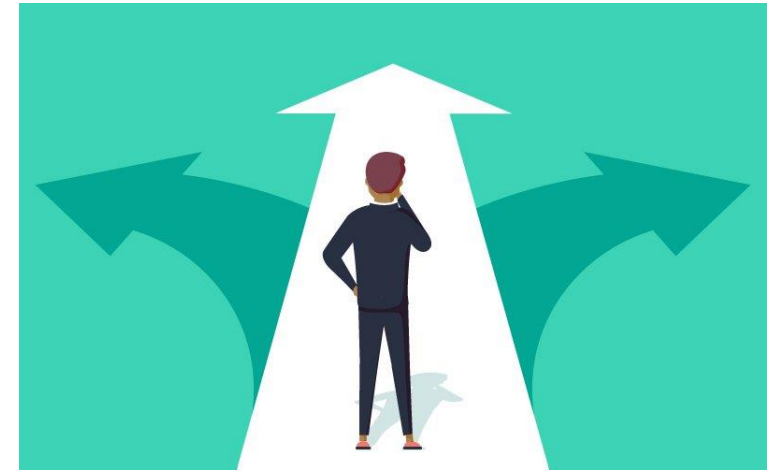
**E-0006**



# Hazards

## Wisconsin Top Five

1. Tornado
2. Communicable disease
3. Cyber attack
4. Ice / snow storm
5. Flood





# Hazards

## Risk Management

**Step 1** : Risk assessment

**Step 2** : Implementation

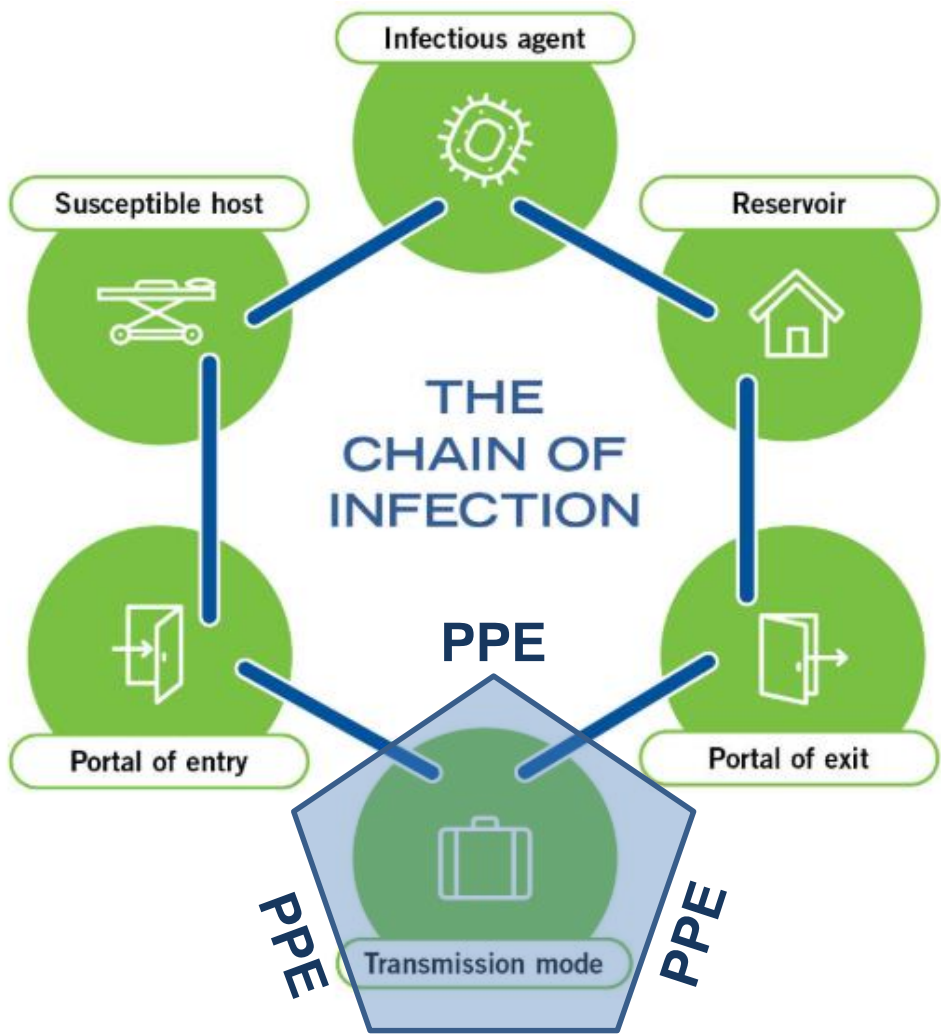
**Step 3** : Lessons learned

**Step 4** : Plan improvements





# Process



Break the Chain





# Process

## Air Purge - CDC

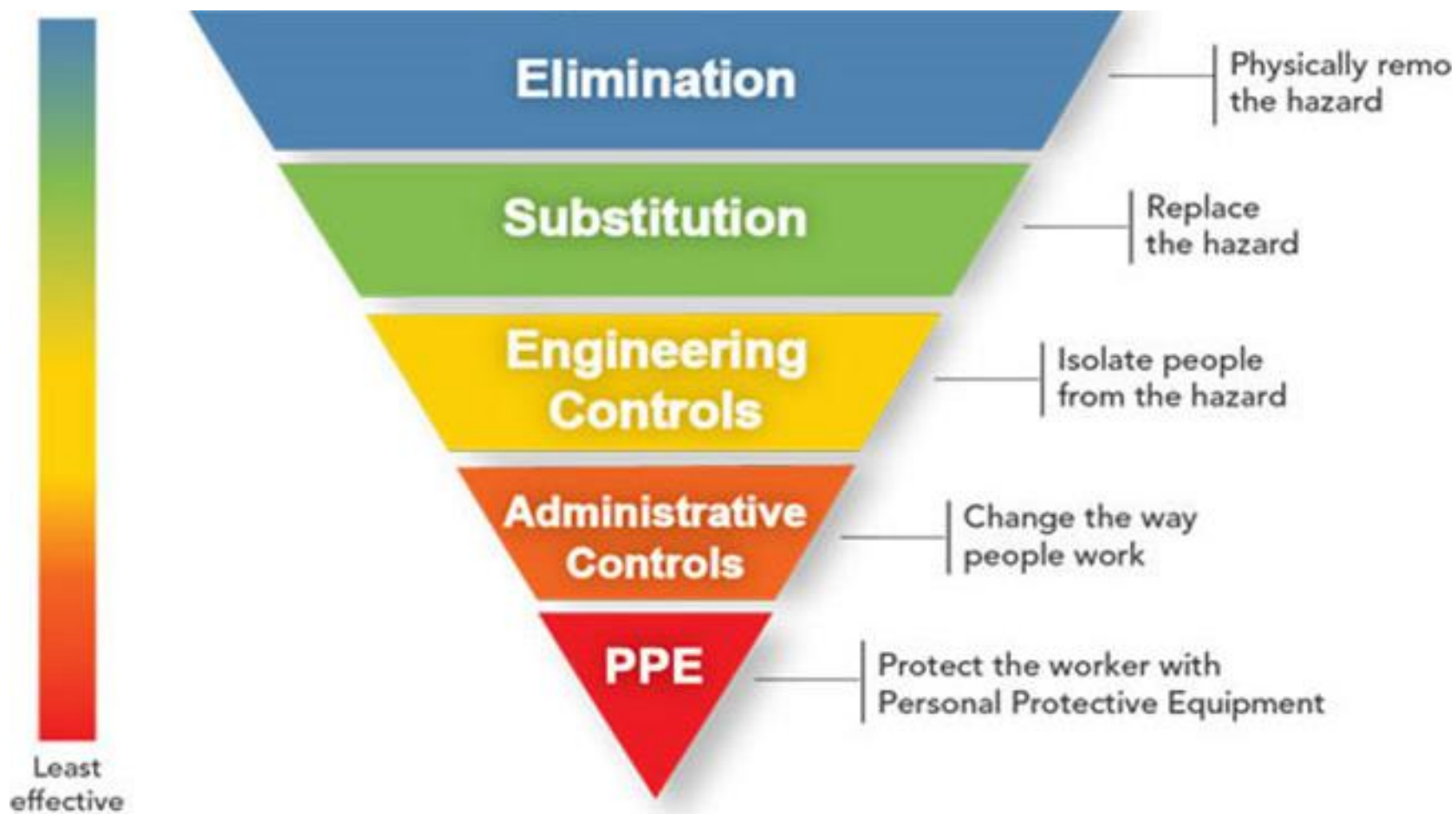
### Air Changes Clearance Rates

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency \*

ACH § 11	Time (mins.) required for removal 99% efficiency	Time (mins.) required for removal 99.9% efficiency
2	138	207
4	69	104
6*	46	69
8	35	52
10*	28	41
12*	23	35
15*	18	28
20	14	21
50	6	8

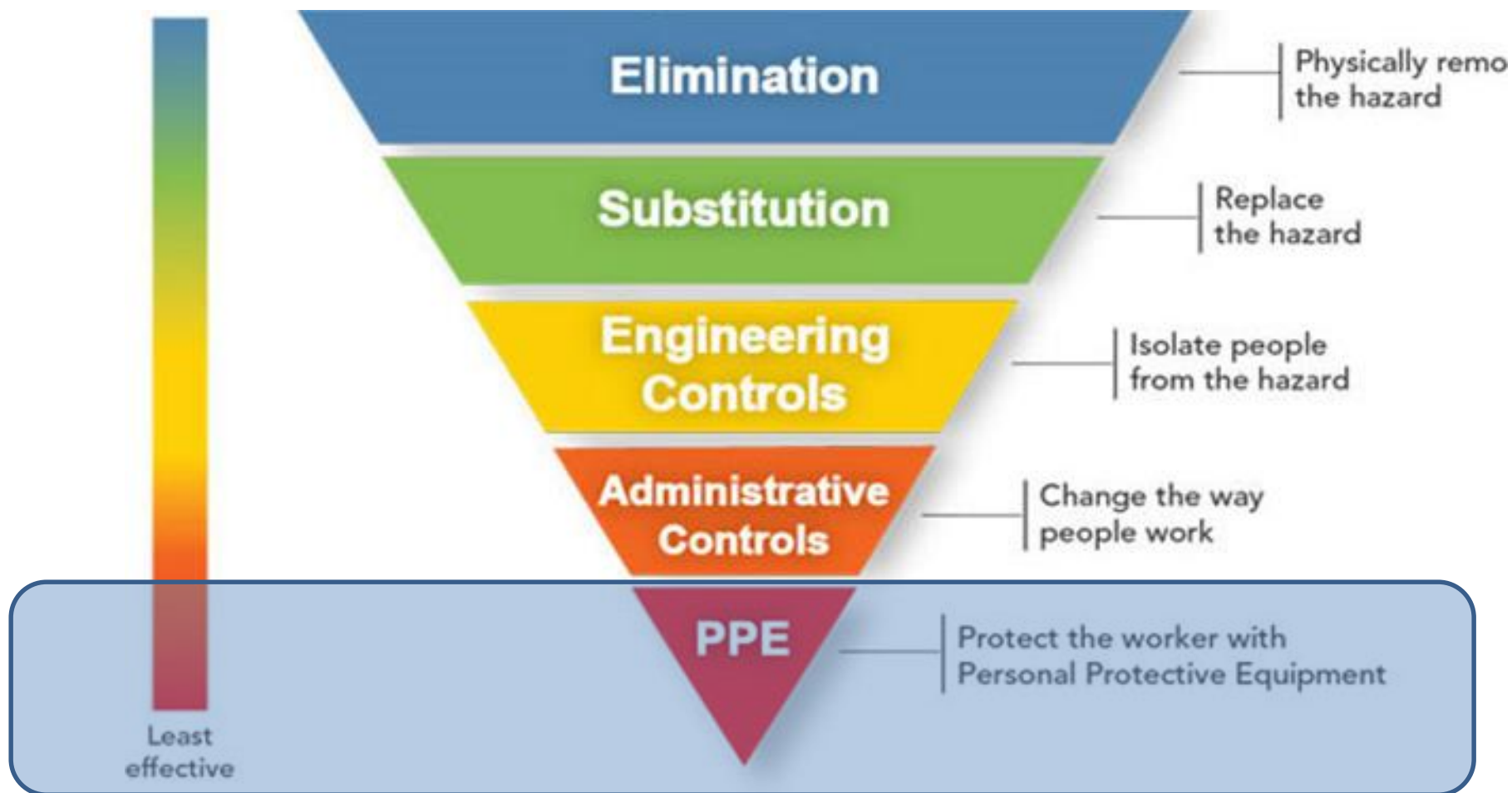


# Process





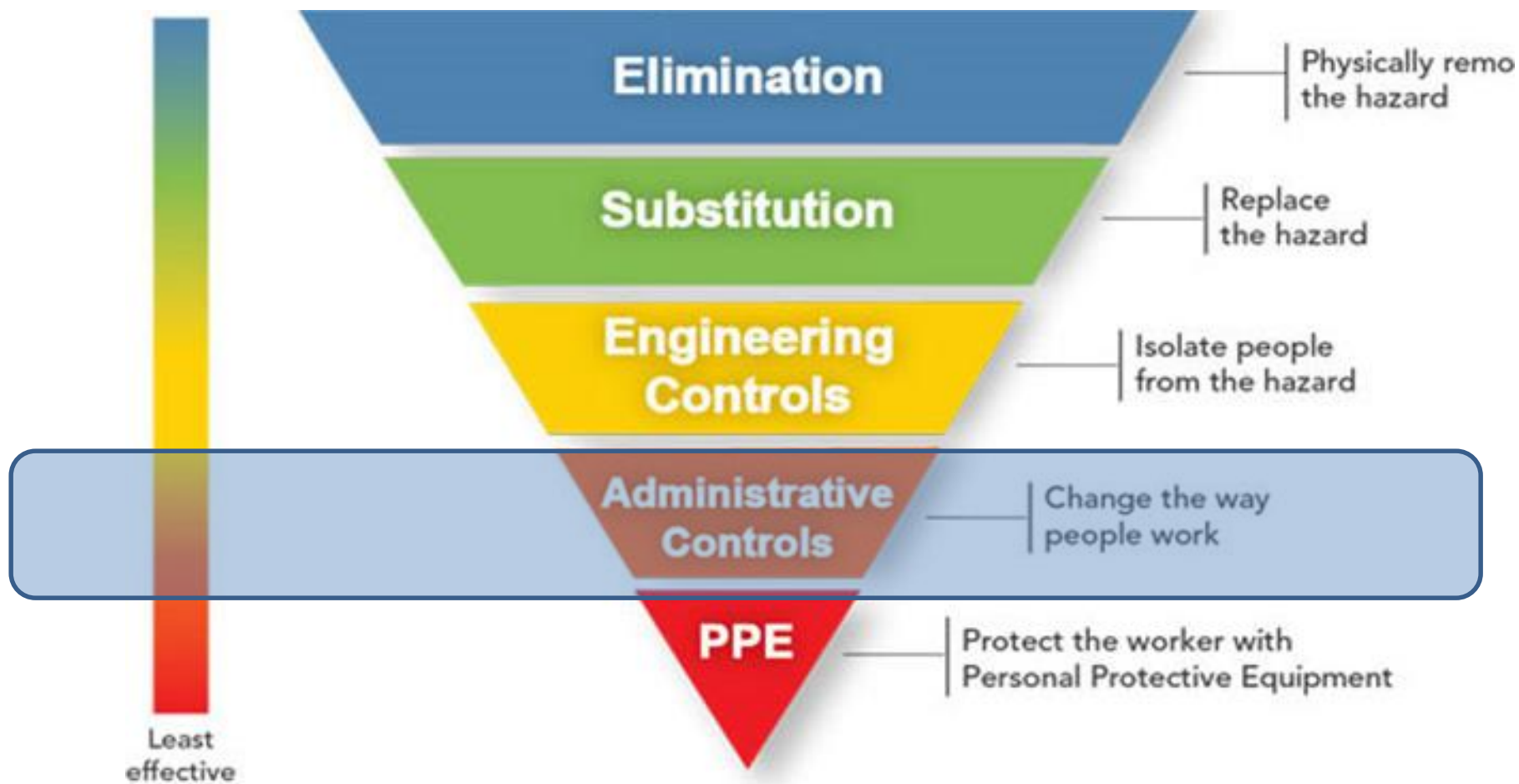
# Process







# Process





# Process

## Administrative Controls

### Detection

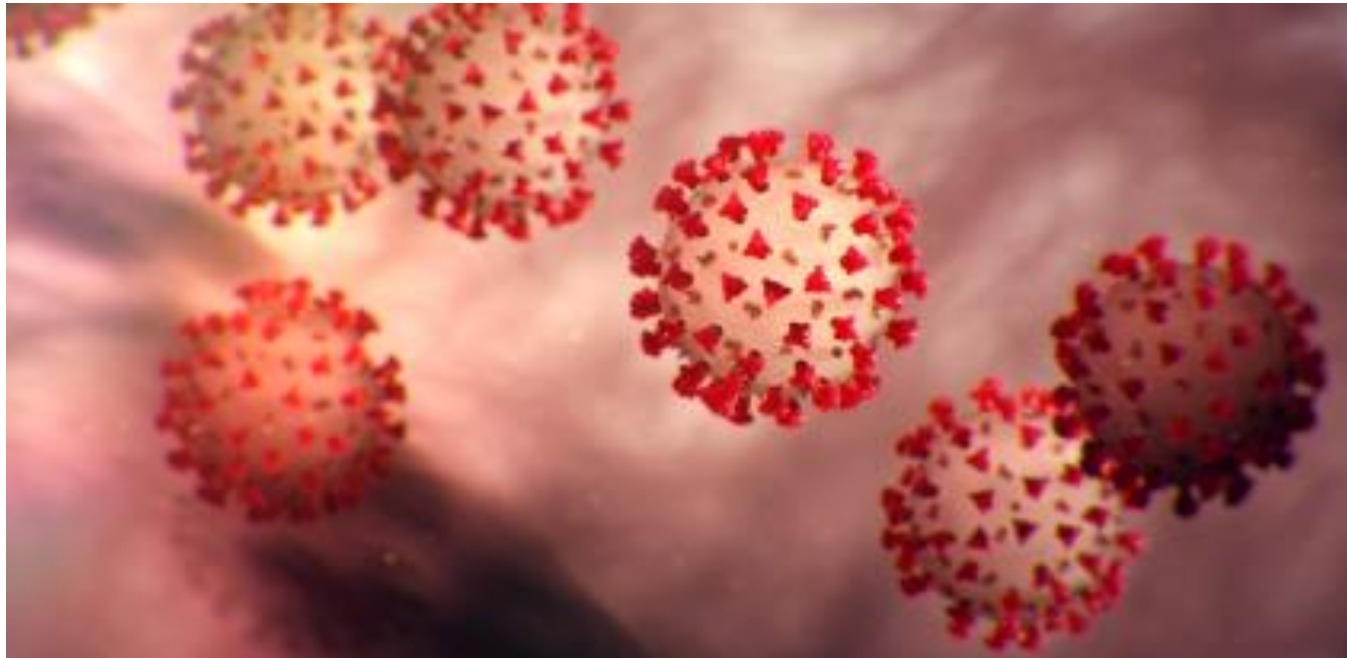
Symptom-based strategy  
Signs and/or Symptoms  
Atypical manifestations  
Screening

### Policy / Plan

Test-based strategy  
Comprehensive  
Segregation  
Dedicated staff  
Adequate supplies

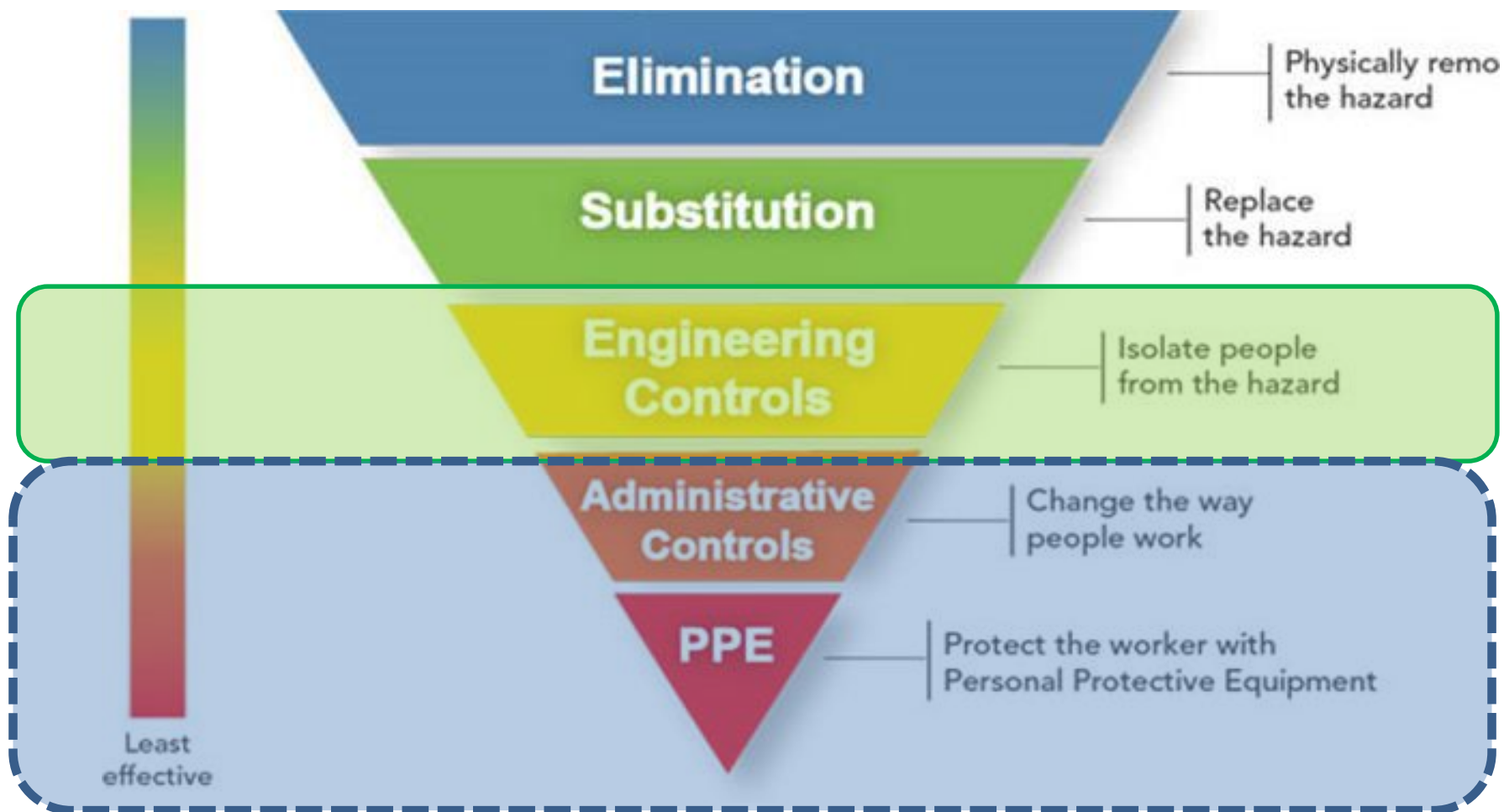


# Process



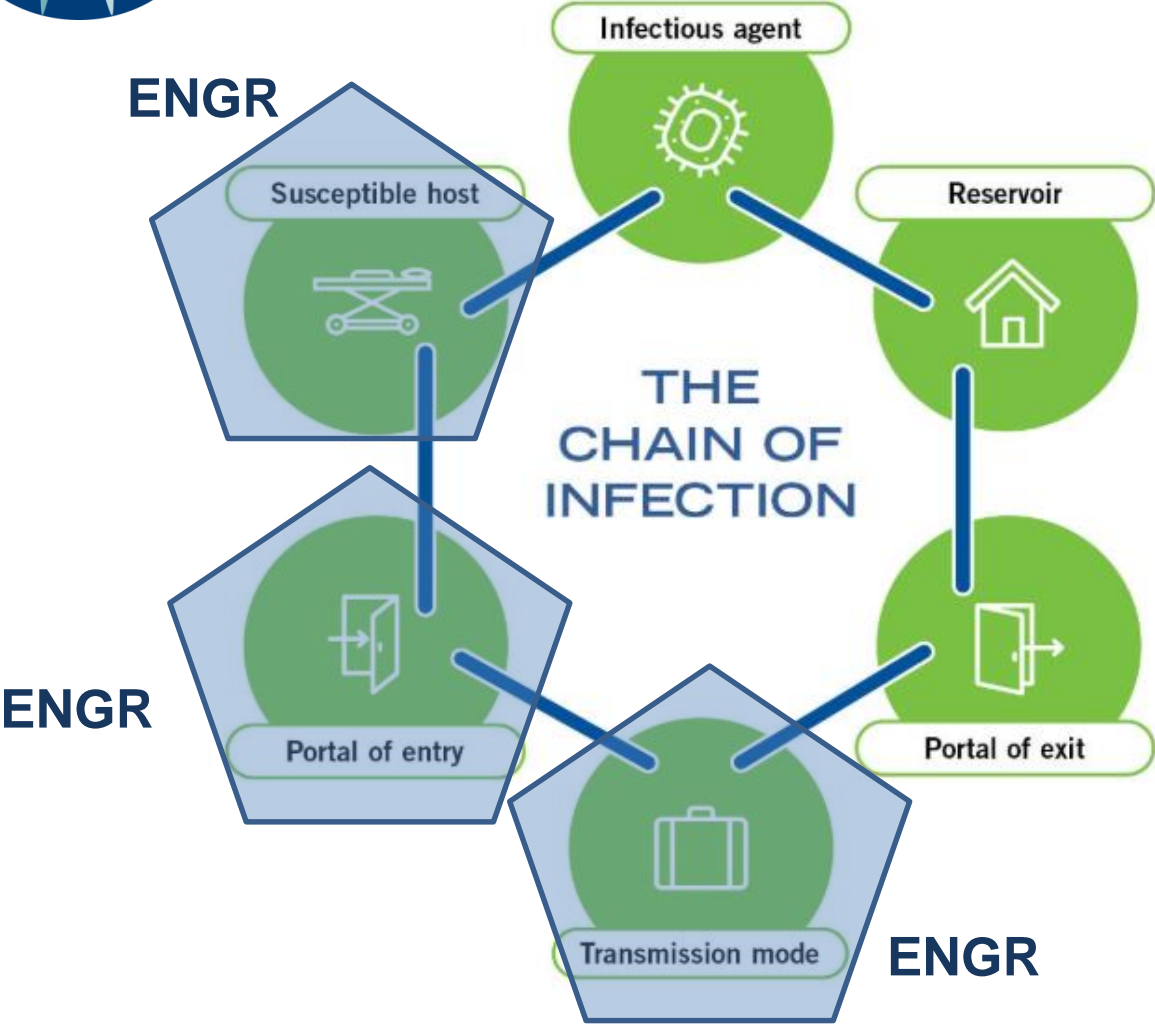


# Process





# Process

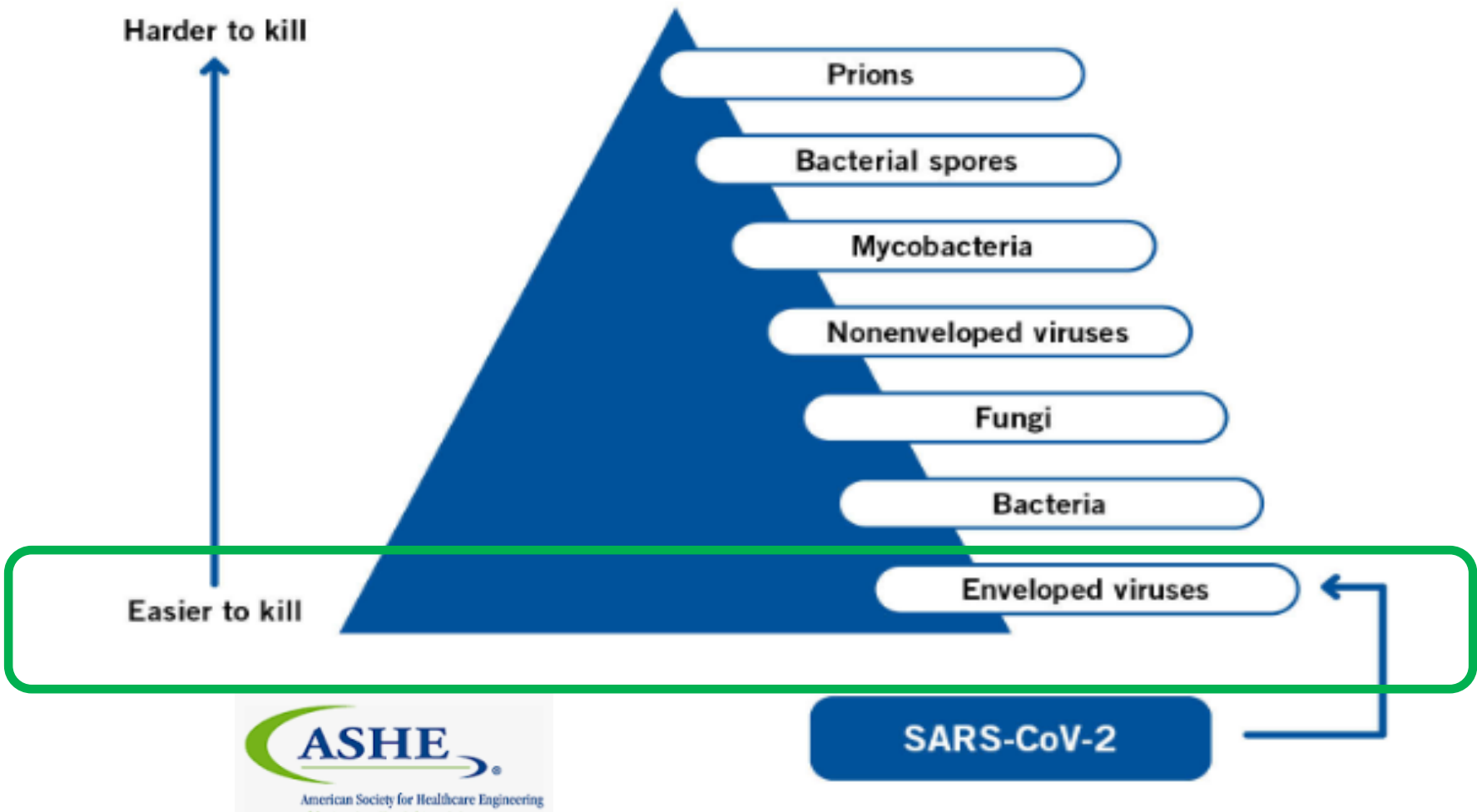


Break the Chain





# Process







# Control\*



## Plan Commitment

\* Interim \*



# Control\*



**Passive**

**Sealed Joints**





# Control\*



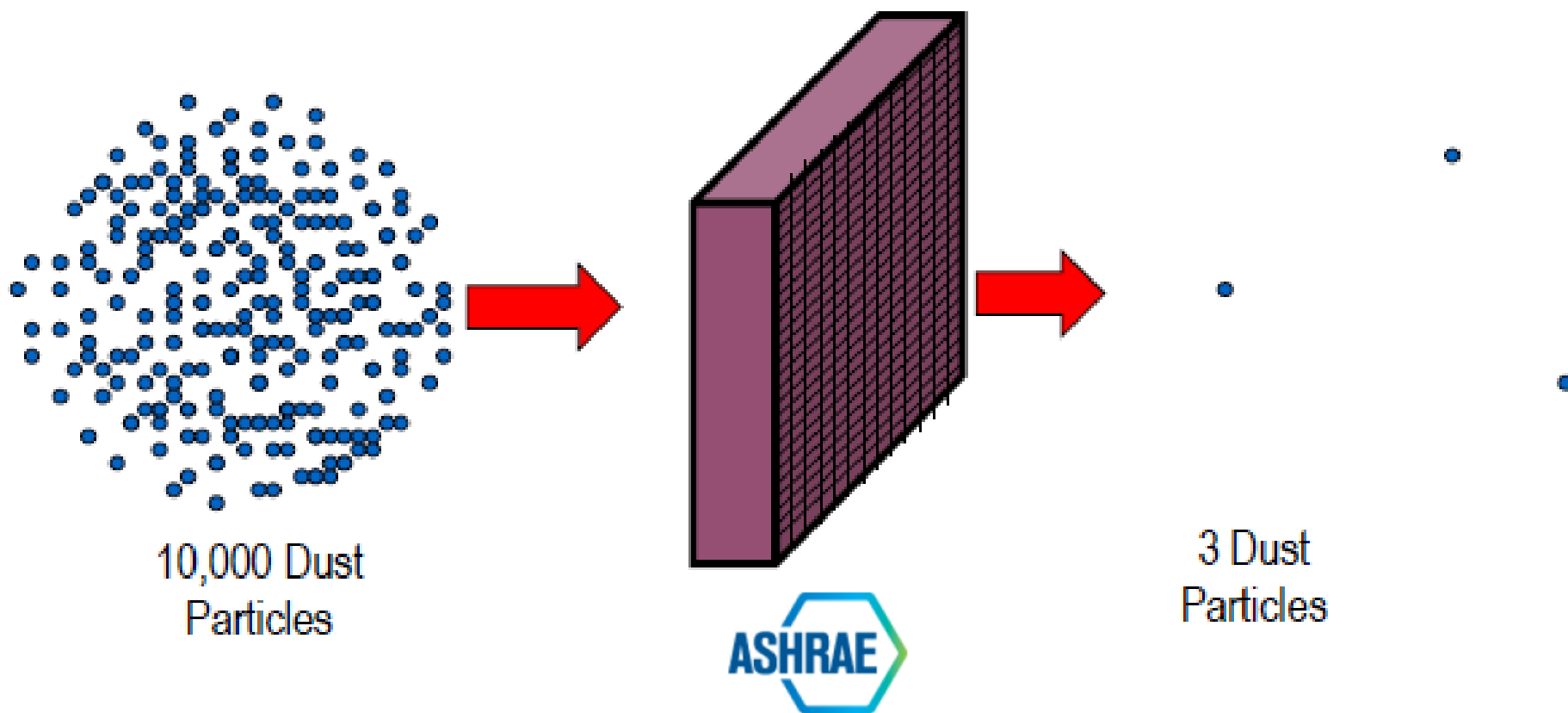
**Active**

**Sealed “Return”**



# Control

## HEPA Filtration





# Control



**HEPA Filter  
Media**



# Control\*



**Portable HEPA Unit**



# Control\*

## N95 Mask



**95% Efficiency**



## HEPA Units



**99.97% Efficiency**



# Control\*

**Portable HEPA Unit in  
Resident Room**

**HEPA exhaust to Exterior**

**Sealed Return**

**Sealed Perimeter**





# Control\*



**Portable HEPA unit  
outside Resident  
Room**

**Seal Return**

**Seal Perimeter**





# Control\*



**Negative Test**





# Control



## Hand Washing





# Control



**Hand Washing**

**Simple  
Soap & Water  
20 seconds**



# Permanent Control

## Wisconsin Commercial Building Code

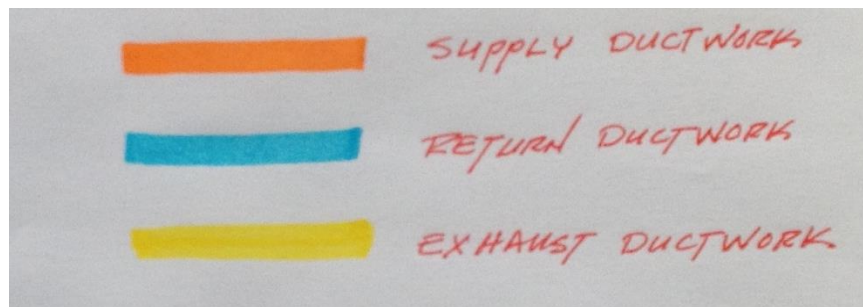
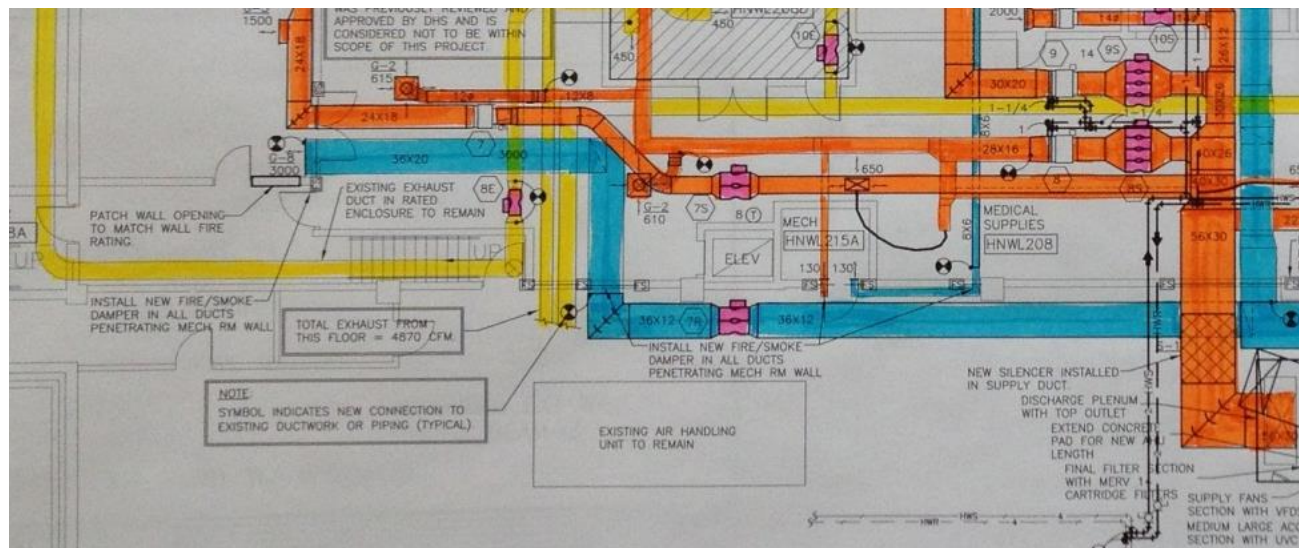
### Chapter SPS 364

2015 International Mechanical Code plus amendments





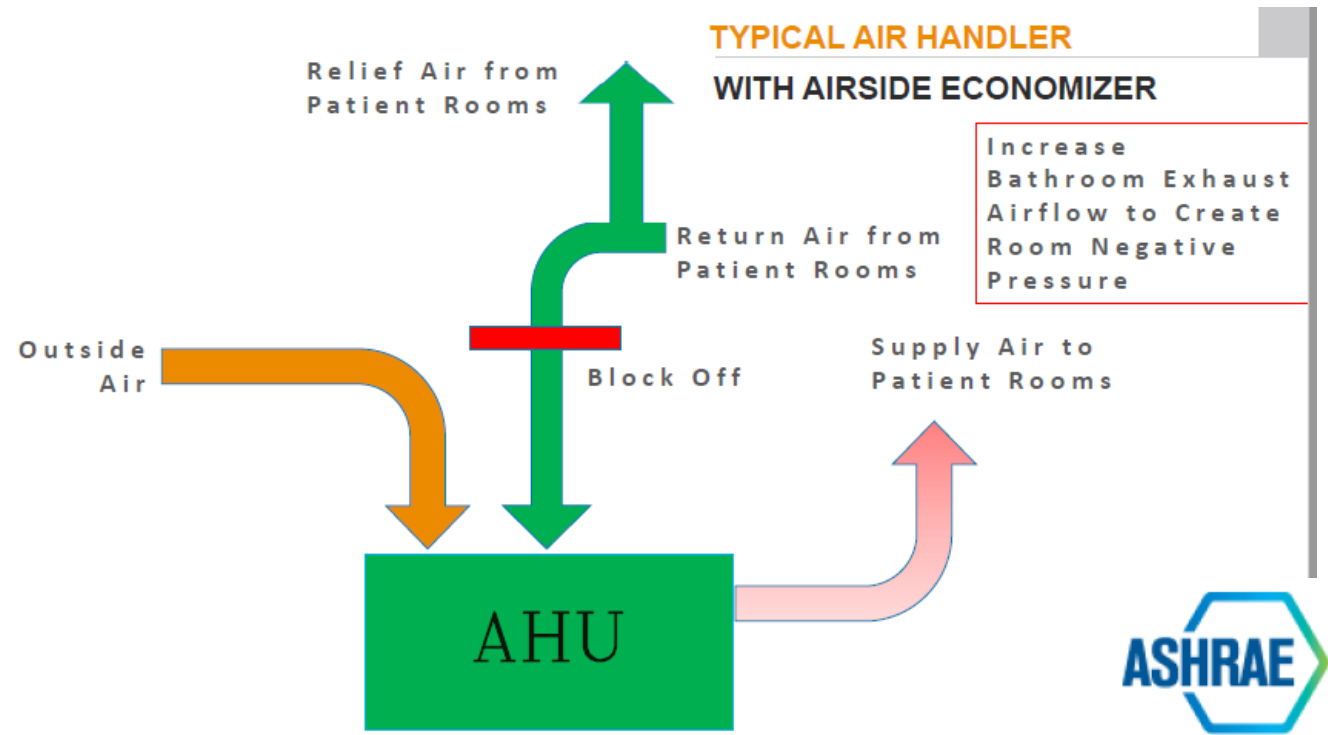
# Designer





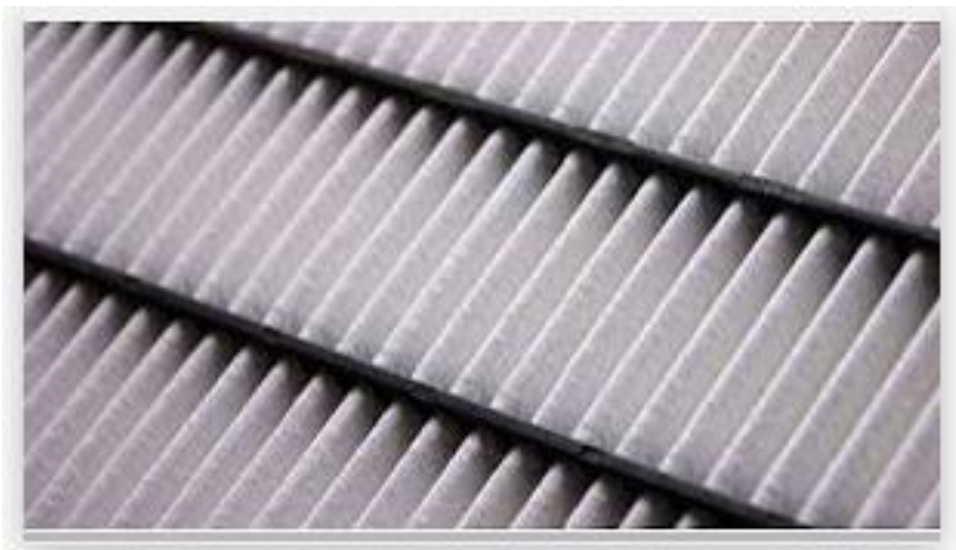
# Control\*

## 100% Outside Air





# Designer

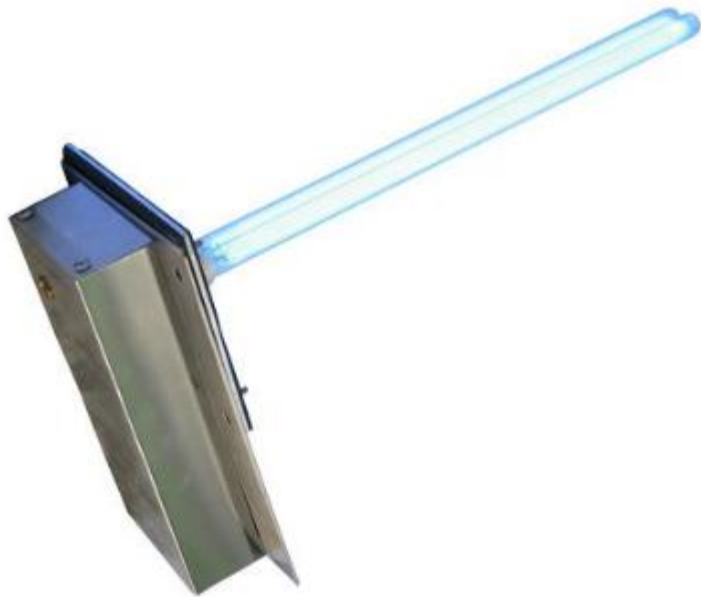


**HVAC Unit**

**HEPA Filter**



# Designer



**HVAC Unit**

**Coil Treatment**

**Ultraviolet Light**



# Plan Review

## DHS

- Architectural
- Ventilation

## DSPS

- Plumbing





# Installation



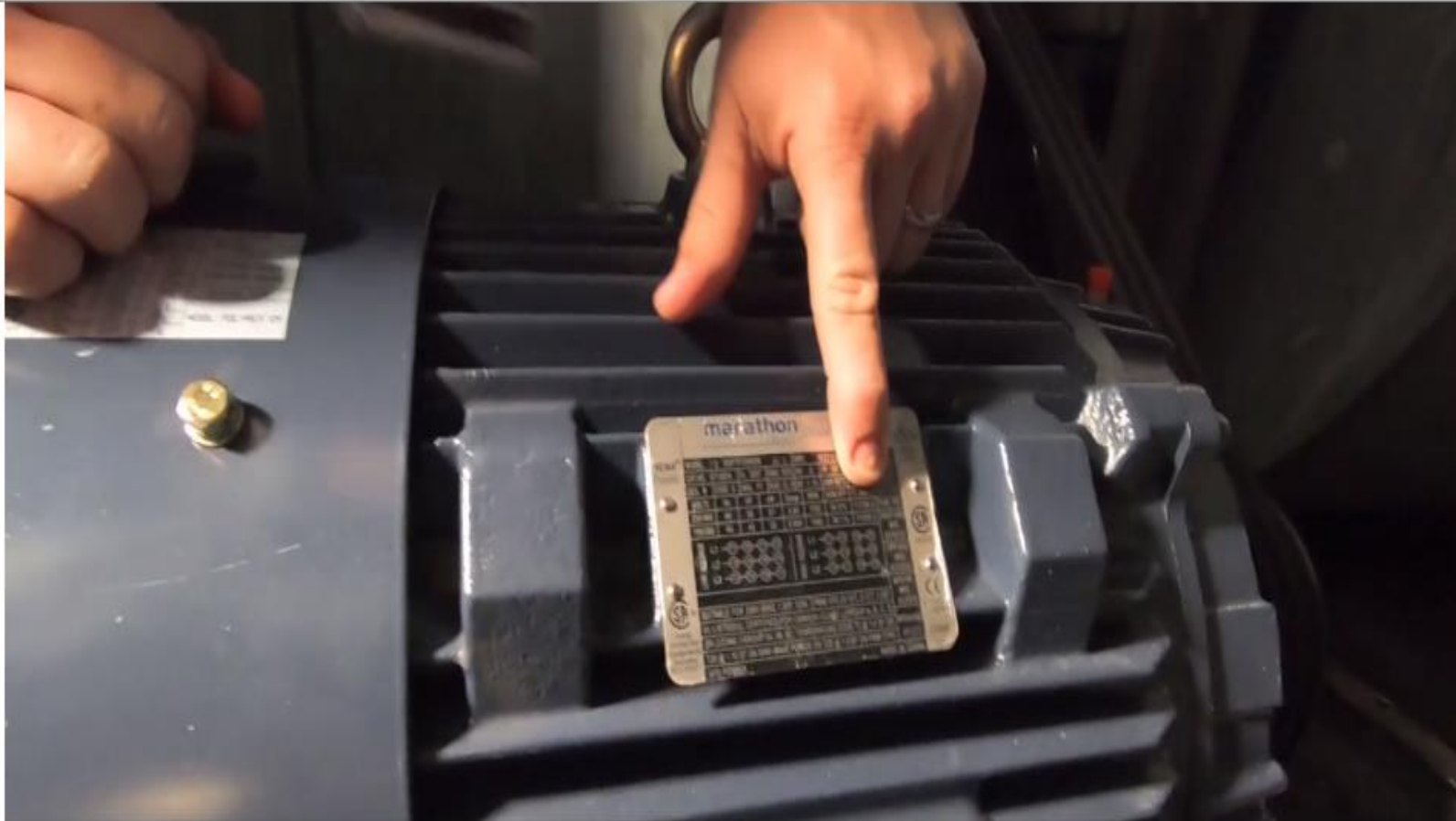


# Installation





# Installation





# Installation





# Resources

**CDC Guidelines for Environmental Infection  
Control in Health Care Facilities [www.cdc.gov](http://www.cdc.gov)**



# Summary

**Hazard  
Process  
Interim Control  
Permanent Control  
Resource**



**Thank You**  
**David R. Soens**